ENGINEERING THE FUTURE OF ELECTRIC VEHICLE CHARGING

Connectivity Solutions for Electric Vehicle (EV) Charging

CONNECTIVITY SOLUTIONS FOR EV CHARGING

As the world shifts to e-mobility and electric vehicles, there is an increased demand for convenient, easily accessible stations for safe and reliable charging. With a robust portfolio of compact, and high-performance antennas, connectors, and sensors, TE Connectivity (TE) is engineering the future of EV charging infrastructure.

ALTERNATIVE CURRENT (AC)

Charging your car at home or at work requires standard AC charging units. These units are typically cost-effective and can be installed with greater flexibility, making them especially well-suited for home installation and overnight charging.

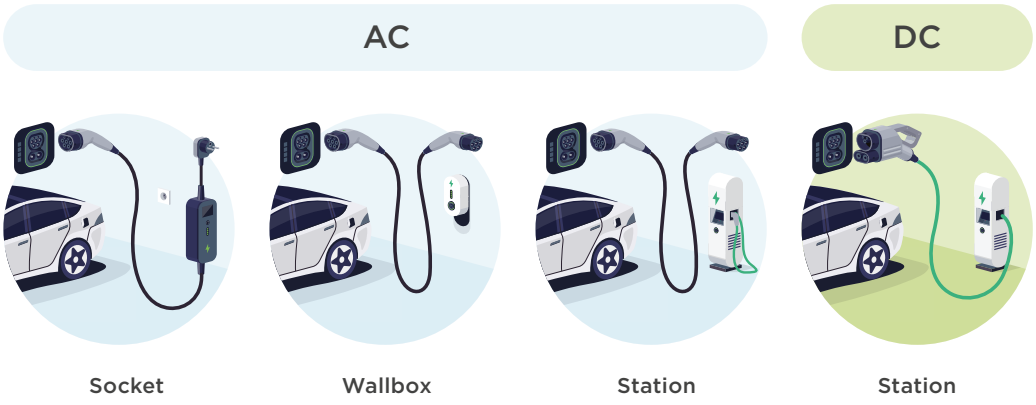
TE's extensive portfolio of connectors and antennas enable space savings while demonstrating notable device performance and functionality.

DIRECT CURRENT (DC)

DC charging stations, typically found near highways or public charging areas, offer faster charging capabilities in a larger, more complex unit.

TE's high-power and wide-range solutions provide the fast-charging capabilities empowering the future of EV infrastructure.

EV Charging Units



DESIGN REQUIREMENTS FOR EV CHARGING

As the demand for electric vehicles continues to grow, the future of e-mobility relies on developing a safer, faster, and more reliable EV experience. TE partners with customers to address these technical challenges and create a more sustainable and connected future.

Connectivity

High-quality wireless transmission in a wide variety of frequencies including WLAN, Bluetooth, etc.

Durability

Ruggedized components offer robust design to help withstand harsh elements and vibrations

Miniaturization

Miniaturized components designed for smaller spaces, to help maximize space-savings and minimize weight

Performance

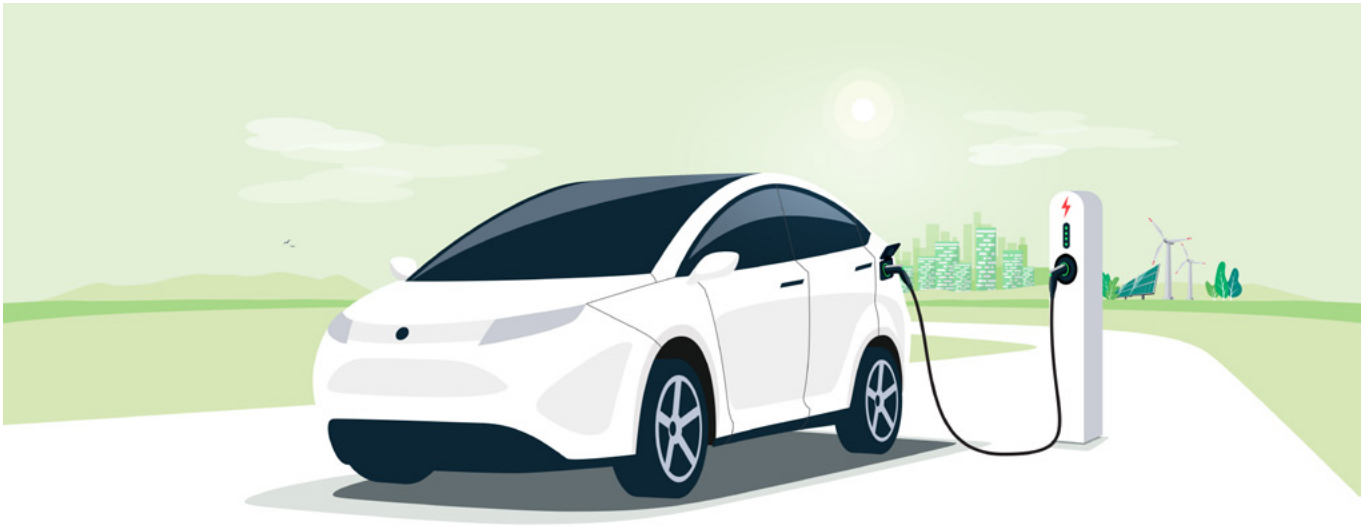
High-performance, high-bandwidth portfolio of solutions offering signal integrity and speed

Versatility

Connectivity configurations and customizable solutions offer greater design flexibility

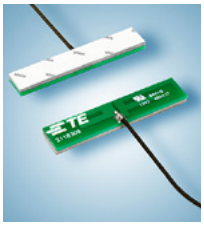
Cost-Savings

Go-to-market faster with higher performing, more durable integrated solution offerings



TE Connectivity has the products and expertise you need to develop convenient, reliable, and safe charging technologies to help drive the future of e-mobility. Our innovative, industry-leading portfolio, combined with our global engineering expertise and manufacturing capabilities, enables us to address our customers' challenging and varied design requirements.

STANDARD & CUSTOM ANTENNAS



Standard Antennas

Our embedded and external antenna solutions provide high-quality transmissions in wireless devices in a wide variety of frequencies, including Bluetooth, cellular, GNSS, Wi-Fi, etc.

Custom Antennas

Near Field Communication (NFC) antennas, and a wide array of other custom solutions, are available to accommodate the mechanical constraints of your application.

RF COAX CONNECTORS

Micro-coaxial Connectors & Cables

With a rugged, compact design, our space-saving micro-miniature coax connectors are engineered for high-performance microwave systems.

SMA/SSMA Connectors

RF coax connectors transmit analog signals while minimizing RF (radio frequency) signal losses. These devices are designed to work at the multi-megahertz RF range.

RF/Microwave Interconnect

RF connectors are designed to perform in rugged, challenging environments, while maintaining low insertion losses, superb voltage standing wave ratio, and other mechanical and electrical functions.

POWER CONNECTORS

Micro MATE-N-LOK Connectors

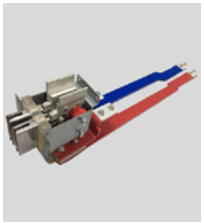
The Micro MATE-N-LOK 3mm connector system offers customizable wire-to-wire, wire-to-board, and panel mount power connectors.

ICCON Insert Power Pins & Sockets

ICCON Block and ICCON Insert high power pin and socket products can offer flexible options for applications up to 350A. By using our proven CROWN BAND Plus socket design in all sizes, this portfolio can provide low contact resistance and low power loss.

Power Versa-Lock Connectors

Our Power Versa-Lock connector system is a high-performance, wire-to-wire solution featuring perimeter and wire seals that deliver IP67 rated protection against water and dust. They offer enhanced sturdiness and reduced movement in high vibration applications.

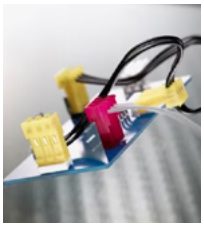


Busbar Connectors

Busbars and busbar connectors are an efficient method of distributing power in a system, transmitting high current power from source to load. With our busbar knowledge and broad connector portfolio, TE has the expertise to develop improved power delivery solutions for customers.

RAPID LOCK Connectors

The RAPID LOCK connector is a single-pole, quick connect and disconnect replacement for lug connections. This connector offers a more secure interconnect mechanism with reduced risk of loose connections and arcing.



MTA 156 Connectors

MTA connectors support mass termination of wires, allowing for less labor-intensive assembly and a lower applied cost. These stackable wire-to-board and wire-to-wire connectors use insulation displacement contacts (IDC) that allow for wire termination without stripping or crimping.

WIRE-TO-BOARD CONNECTORS

AMP CT Connectors

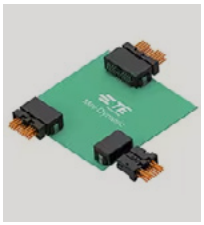
TE's AMP CT connector system consists of an extensive product offering with broad industry usage.

AMP Mini CT Connectors

TE's 1.5mm AMP Mini CT connectors are miniature wire-to-board interconnect solutions. These connectors are tailored for improved harness productivity and feature a compact design with contacts on 1.5 mm pitch.

AMP Micro CT Connectors

TE's AMP Micro CT connectors and cable assemblies can provide an economical wire routing solution for power or signal needs, optimizing PCB space savings, efficiency improvements and superior performance.



Dynamic Mini Series

Super compact and highly reliable, the Dynamic Mini Series is designed for high retention force and proven performance in harsh and vibration environments.

Dynamic 5000 Series

The Dynamic 5000 Series is designed for a safer power connection which can carry up to 45A current with silver plated contacts.

ERNI MaxiBridge Connectors

The MaxiBridge connector system is a single- and double-row cable connector system with a pitch of 2.54 mm, allowing for well-grounded connections between PCBs and decentralized functional units.

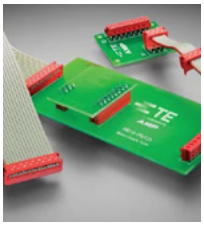
High Performance Interconnects (HPI)

HPI offer vertical and horizontal (right angle) connector mounting for versatility and can be used anywhere a signal or low power needs to be routed through a device.

BOARD-TO-BOARD CONNECTORS

Spring Fingers

Spring fingers can be used for antenna feeds, low voltage electrical connections, or for grounding to prevent EMI noise and static caused by a speaker, motor, microphone, or any other vibration within an application.

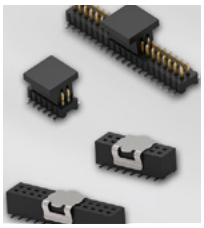


Micro-MaTch Connectors

Our Micro-MaTch connectors provide a proven reliable connection. Its unique contact-spring system helps prevent fretting corrosion by absorbing movements between male and female contacts.

ERNI Small Multiple Connector (SMC) Series

Small multiple connectors (SMC) offer excellent solutions everywhere small grid and high performance are required.



AMPMODU Small Centerline Connectors

Our family of board-to-board fine pitch connectors with a 1 mm centerline offer a dual-beam contact design that provides a strong electrical connection even in severe shock and vibration environments.

FLEX CONNECTORS

Flexible Printed Circuit (FPC) Connectors

As the market trends towards miniaturization, FPC connectors have been developed to address the challenges of this expanding market, which often demands smaller centerline or pitch spacing, lower profile heights, and lighter interconnect solutions.

AMP-LATCH Ribbon Connectors

Our AMP-LATCH ribbon cable interconnects offer quick connections without stripped or prepping wires. Ribbon cable connectors are used to make the transition between ribbon cable and PCB circuitry, with the primary function of connecting one board or subsystem to another.

BATTERY CONNECTORS

Coin Battery Holders

Including TE's compact and low-profile battery holder in the battery assembly process can offer significant production efficiency. When the battery level is depleted, the battery can easily be removed from the battery holder to avoid further environmental contamination.

CARD EDGE CONNECTORS

M.2 Connectors

The M.2 next generation form factor product line is a natural transition from the mini card and half-mini card to a smaller form factor in both size and volume. The new, smaller form factor is suitable for applications in new thin platforms.

USB TYPE-C CONNECTORS

USB Type-C Connectors

As the next generation solution for current and future USB applications, our USB Type-C connectors are designed to an industry standard that provides a sleek, slim design small enough for handheld devices and small home appliances and robust enough for industrial applications.

MODULAR JACKS

Standard Modular Jacks

With TE's modular jacks and plugs, you can help improve EMI performance and expand system bandwidth capabilities with solutions manufactured to operate better in the harshest environments.

High Performance Modular Jacks

Modular connectors are engineered to help make secure and reliable input/output connections. Designed for use in industrial environments, the connector features fast termination technology as well as rugged locks for a secure interconnection.

TERMINALS & SPLICES

AMPLIVAR Terminals

AMPLIVAR splices support a range of splicing in a multiple bussed configuration. Each compression crimped splice will accommodate three copper or aluminum magnet wires.

Open Barrel Ring & Spade Terminals

Our solderless, non-insulated ring terminals are designed for stud or post mounting and cover a wide range of wire gauges with the same applicator.

SIM CARD CONNECTORS

SIM Card Connectors

SIM cards are widely used in a variety of mobile applications, including, billing, security and number storage purposes in mobile devices. Currently SIM card connectors are widely used in IoT related applications. We offer a variety of SIM card connectors to address different applications.

AUTOMOTIVE SENSORS

Active Current Sensors

A highly accurate active current sensor optimized for sensing EV battery management systems. Utilizing shunt technology with a measurement range of up to 3000A with excursion to 4000A.

Hall Current Sensors

High accuracy hall current sensor to support optimized system approach for sensing within battery management for EVs. Hall technology with a measurement range up to 350A.

Passive Current Sensors

High accuracy passive current sensor to support optimized system approach to sensing with battery management systems for EVs.

AUTOMOTIVE CONNECTORS

E-drive System High-Voltage Connectors for Electric Vehicles

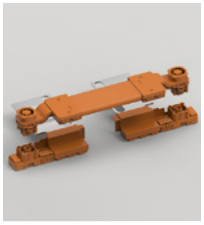
TE Connectivity's broad portfolio of high-voltage interconnection systems for EV drivetrains is designed to provide a safe, high-voltage/high-current connection between the car's battery, power distribution unit, inverter, and the motor. Our class 4/5/6 connectors include the HVCSJ series, HV 2100 series, and HC-STAK connector families.

Auxiliary System High-Voltage Connectors for Electric Vehicles

Our auxiliary system connector products are designed to deliver low- to medium-current power to DC-to-DC converters, high-voltage passenger cabin heating and cooling systems, and onboard charging systems. Our class 1/2/3 connectors are package-maximized, making them lightweight and taking up less space inside the car.

Charging Path Connectors for Electric Vehicles

As EV batteries get larger, the car's charging inlet and other components need to be capable of transferring power at greater kilowatt levels. Our charging inlet portfolio supports all common international interface variants, from AC for daily home charging, and high-powered DC charging typically available from public stations.



Battery System Connectors for Electric Vehicles

Battery technologies are evolving as quickly as the EV market. Automakers and battery pack manufacturers need low-profile connectors that meet stringent requirements. TE offers a full catalog of module-to-module, cell-to-cell, and cell-to-chassis innovations that transfer energy efficiently at low resistance, reducing power loss and heat.

EVC Series High-Voltage Contactors

Electrical safety is a critical consideration when designing new architectures for EVs. Our EVC series contactors help enable safe connection and disconnection, protecting the car's complex systems against potentially damaging electrical faults. Our contactors deliver up up to 17 kA of short circuit capability at energy transfer rates of up to 500 A of current.

PicoMQS Miniaturized Connectors

PicoMQS interconnection systems enable severe space-constrained electronic components, shorter wires, and a reduced total connector package.

NanoMQS Miniaturized Connectors

The NanoMQS miniature connector system offers a pin pitch of 1.8 mm enabling a PCB footprint reduction of up to 50%.

Generation 50 Automotive Connector System

Our Generation 50 connector portfolio offers both size and weight savings while satisfying the USCAR-2 environmental and mechanical requirement for 0.5 mm systems.

INDUSTRIAL & COMMERICAL VEHICLE CONNECTORS

PowerTube Connector Series

As the newest addition to our HIVONEX connector and charging solutions, the PowerTube connector series is a modular and scalable solution for safe connectivity for high voltage (HV) applications, capable of delivering power up to 1000 V at 580 A.

IPT-HD Power Bolt High Voltage Connectors

Part of the HIVONEX product suite for high voltage E-mobility, the IPT-HD power bolt connector is a bolted solution aimed at MCU (Motor Control Unit), E-axle, and E-motor applications. Designed to withstand extreme temperatures, and engine-level vibrations, it also offers a new shielding design to improve electromagnetic compatibility (EMC) performance.

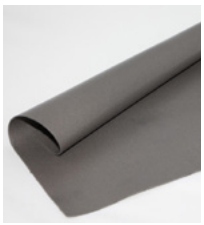
HVA HD400 High Voltage Accessories Connectors

As electrification picks up pace in industrial and commercial transportation, ensuring that high voltage accessories like HVAC, heaters, hydraulic pumps and electronic power steering are performing to expectations in the field is more important than ever.

Charging Inlets

As hybrid and electric vehicles claim their share of the industrial and commercial transportation market, it's vital to ensure that designs enable fast, secure charging without compromising on the ruggedness required on the field. Our charging inlets, part of the HIVONEX portfolio, are ready to meet these challenges.

EMI SHIELDING

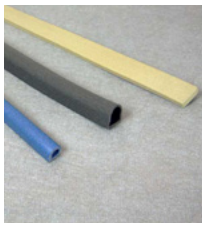


Flat Gasket Sheet Material

EMI gaskets are made of fully cured silicone or fluorosilicone and provide environmental sealing, thermal insulation, and shielding against EMI.

EMI Shielding Vent

Our EMI vent panels are designed for use in electronic enclosures where good air flow is required for cooling and ventiltion but where electromagnetic compatibility compliance must be ensured.



Conductive Elastomer Cord & Tube

Conductive elastomers are fully cured silicones or fluorosilicone loaded with electrically conductive particles providing superior EMI/RFI shielding performance combined with excellent environmental sealing.

HEAT SHRINK TUBING

EV Single Wall Heat Shrink Tubing

Heat shrink tubing provides electrical insulation, mechanical protection, enivronmental sealing, and strain relief.

APPLICATION TOOLING

High Voltage Wire Processing Equipment

Processing large wire sizes and terminating high voltage wire connectors requires a high performing, highly engineered solution. TE's high force lineup gives you the power needed to process large wire applications in a fast, flexible, and affordable format.

Flexible Flat Cable (FFC) Processing Machine

Our FFC termination machine is an electrical-driven, semi-automatic machine that uses different die sets to terminate reel-feed FFC contacts to manually supplied FFC cables. FFC termination provides quick change, interchangeable applicators for different products, along with an operator- friendly touch screen display.

WHY PARTNER WITH TE?

At TE, we view our role of consultant as trusted advisor, who helps to bring value to our customers through innovative and customized solutions. We have the products, people, and partnerships to help engineers of all skill levels bring their design ideas to market.

Partnerships that Enhance Innovation

We collaborate with customers and peers to support the development of new technologies.

Solutions for High Performance

Our products can support high-speed, energy-efficiency, and miniaturization in cloud, IoT end point and edge markets.

Faster, Flexible Service

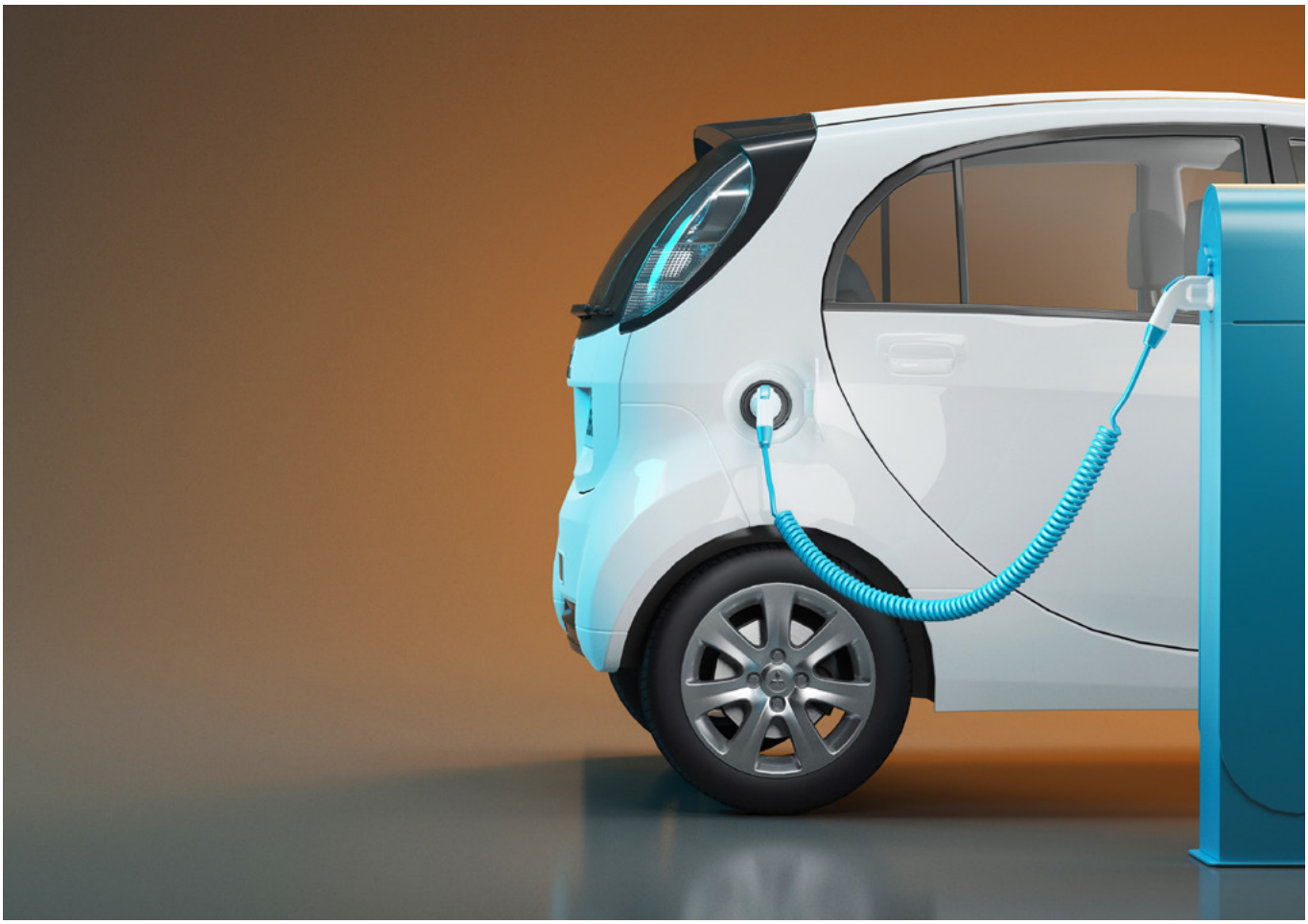
TE's manufacturing and value-added support deliver top quality, highly efficient products to meet dynamic design cycles.

End-to-End Connectivity

TE offers a broad range of product options across data communications and IoT applications, giving customers the opportunity to consolidate their supplier base.

Sustainable Partnership

TE's engineering and manufacturing expertise, combined with our global footprint, provides one of the largest connectivity and sensor portfolios.



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ORDER SAMPLES

CONTACT US

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